SEQUENCE LISTING

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<150> EP 00127891.0
<151> 2000-12-20

<160> 17

<170> PatentIn Ver. 3.3

<210> 1
<211> 165
<212> PRT
<213> Homo sapiens

<400> 1

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Ala Pro Pro Arg Leu Ile Cys Asp Ser Arg Val Leu Glu Arg Tyr Leu
  1               5                  10                  15

Leu Glu Ala Lys Glu Ala Glu Asn Ile Thr Thr Gly Cys Ala Glu His
             20                  25                  30

Cys Ser Leu Asn Glu Asn Ile Thr Val Pro Asp Thr Lys Val Asn Phe
         35                  40                  45

Tyr Ala Trp Lys Arg Met Glu Val Gly Gln Gln Ala Val Glu Val Trp
     50                  55                  60

Gln Gly Leu Ala Leu Leu Ser Glu Ala Val Leu Arg Gly Gln Ala Leu
 65                  70                  75                  80

Leu Val Asn Ser Ser Gln Pro Trp Glu Pro Leu Gln Leu His Val Asp
                 85                  90                  95

Lys Ala Val Ser Gly Leu Arg Ser Leu Thr Thr Leu Leu Arg Ala Leu
            100                 105                 110

Gly Ala Gln Lys Glu Ala Ile Ser Pro Pro Asp Ala Ala Ser Ala Ala
        115                 120                 125

Pro Leu Arg Thr Ile Thr Ala Asp Thr Phe Arg Lys Leu Phe Arg Val
    130                 135                 140
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Tyr Ser Asn Phe Leu Arg Gly Lys Leu Lys Leu Tyr Thr Gly Glu Ala
145                 150                 155                 160

Cys Arg Thr Gly Asp
                165
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<210> 2
<211> 166
<212> PRT
<213> Homo sapiens

<400> 2

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Ala Pro Pro Arg Leu Ile Cys Asp Ser Arg Val Leu Glu Arg Tyr Leu
  1               5                  10                  15

Leu Glu Ala Lys Glu Ala Glu Asn Ile Thr Thr Gly Cys Ala Glu His
            20                  25                  30

Cys Ser Leu Asn Glu Asn Ile Thr Val Pro Asp Thr Lys Val Asn Phe
        35                  40                  45

Tyr Ala Trp Lys Arg Met Glu Val Gly Gln Gln Ala Val Glu Val Trp
    50                  55                  60

Gln Gly Leu Ala Leu Leu Ser Glu Ala Val Leu Arg Gly Gln Ala Leu
65                  70                  75                  80

Leu Val Asn Ser Ser Gln Pro Trp Glu Pro Leu Gln Leu His Val Asp
                85                  90                  95

Lys Ala Val Ser Gly Leu Arg Ser Leu Thr Thr Leu Leu Arg Ala Leu
            100                 105                 110

Gly Ala Gln Lys Glu Ala Ile Ser Pro Pro Asp Ala Ala Ser Ala Ala
        115                 120                 125

Pro Leu Arg Thr Ile Thr Ala Asp Thr Phe Arg Lys Leu Phe Arg Val
    130                 135                 140

Tyr Ser Asn Phe Leu Arg Gly Lys Leu Lys Leu Tyr Thr Gly Glu Ala
145                 150                 155                 160

Cys Arg Thr Gly Asp Arg
                165
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<210> 3
<211> 201
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic protein construct

<400> 3
Met Gly Val His Glu Cys Pro Ala Trp Leu Trp Leu Leu Leu Ser Leu
1 5 10 15

Leu Ser Leu Pro Leu Gly Leu Pro Val Leu Gly Ala Pro Pro Arg Ile
20 25 30

Glu Gly Arg Ala Pro Pro Arg Leu Ile Cys Asp Ser Arg Val Leu Glu
35 40 45

Arg Tyr Leu Leu Glu Ala Lys Glu Ala Glu Asn Ile Thr Thr Gly Cys
50 55 60

Ala Glu His Cys Ser Leu Asn Glu Asn Ile Thr Val Pro Asp Thr Lys
65 70 75 80

Val Asn Phe Tyr Ala Trp Lys Arg Met Glu Val Gly Gln Gln Ala Val
85 90 95

Glu Val Trp Gln Gly Leu Ala Leu Leu Ser Glu Ala Val Leu Arg Gly
100 105 110

Gln Ala Leu Leu Val Asn Ser Ser Gln Pro Trp Glu Pro Leu Gln Leu
115 120 125

His Val Asp Lys Ala Val Ser Gly Leu Arg Ser Leu Thr Thr Leu Leu
130 135 140

Arg Ala Leu Gly Ala Gln Lys Glu Ala Ile Ser Pro Pro Asp Ala Ala
145 150 155 160

Ser Ala Ala Pro Leu Arg Thr Ile Thr Ala Asp Thr Phe Arg Lys Leu
165 170 175

Phe Arg Val Tyr Ser Asn Phe Leu Arg Gly Lys Leu Lys Leu Tyr Thr
180 185 190

Gly Glu Ala Cys Arg Thr Gly Asp Arg
195 200

<210> 4
<211> 196
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic protein construct

<400> 4
Met Gly Val His Glu Cys Pro Ala Trp Leu Trp Leu Leu Leu Ser Leu
1 5 10 15

Leu Ser Leu Pro Leu Gly Leu Pro Val Leu Gly Ala Pro Pro Ala Pro
20 25 30

```
Pro Arg Leu Ile Cys Asp Ser Arg Val Leu Glu Arg Tyr Leu Leu Glu
         35                  40                  45

Ala Lys Glu Ala Glu Asn Ile Thr Thr Gly Cys Ala Glu His Cys Ser
     50                  55                  60

Leu Asn Glu Asn Ile Thr Val Pro Asp Thr Lys Val Asn Phe Tyr Ala
 65                  70                  75                  80

Trp Lys Arg Met Glu Val Gly Gln Gln Ala Val Glu Val Trp Gln Gly
                 85                  90                  95

Leu Ala Leu Leu Ser Glu Ala Val Leu Arg Gly Gln Ala Leu Leu Val
            100                 105                 110

Asn Ser Ser Gln Pro Trp Glu Pro Leu Gln Leu His Val Asp Lys Ala
        115                 120                 125

Val Ser Gly Leu Arg Ser Leu Thr Thr Leu Leu Arg Ala Leu Gly Ala
    130                 135                 140

Gln Lys Glu Ala Ile Ser Pro Pro Asp Ala Ala Ser Ala Ala Pro Leu
145                 150                 155                 160

Arg Thr Ile Thr Ala Asp Thr Phe Arg Lys Leu Phe Arg Val Tyr Ser
                165                 170                 175

Asn Phe Leu Arg Gly Lys Leu Lys Leu Tyr Thr Gly Glu Ala Cys Arg
            180                 185                 190

Thr Gly Asp Arg
        195
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<210> 5
<211> 201
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic protein construct

<400> 5

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Met Gly Val His Glu Cys Pro Ala Trp Leu Trp Leu Leu Leu Ser Leu
  1               5                  10                  15

Leu Ser Leu Pro Leu Gly Leu Pro Val Leu Gly Ala Pro Pro Gly Ala
             20                  25                  30

Ala His Tyr Ala Pro Pro Arg Leu Ile Cys Asp Ser Arg Val Leu Glu
         35                  40                  45

Arg Tyr Leu Leu Glu Ala Lys Glu Ala Glu Asn Ile Thr Thr Gly Cys
     50                  55                  60

Ala Glu His Cys Ser Leu Asn Glu Asn Ile Thr Val Pro Asp Thr Lys
 65                  70                  75                  80
```

```
Val Asn Phe Tyr Ala Trp Lys Arg Met Glu Val Gly Gln Gln Ala Val
                 85                  90                  95

Glu Val Trp Gln Gly Leu Ala Leu Leu Ser Glu Ala Val Leu Arg Gly
            100                 105                 110

Gln Ala Leu Leu Val Asn Ser Ser Gln Pro Trp Glu Pro Leu Gln Leu
        115                 120                 125

His Val Asp Lys Ala Val Ser Gly Leu Arg Ser Leu Thr Thr Leu Leu
    130                 135                 140

Arg Ala Leu Gly Ala Gln Lys Glu Ala Ile Ser Pro Pro Asp Ala Ala
145                 150                 155                 160

Ser Ala Ala Pro Leu Arg Thr Ile Thr Ala Asp Thr Phe Arg Lys Leu
                165                 170                 175

Phe Arg Val Tyr Ser Asn Phe Leu Arg Gly Lys Leu Lys Leu Tyr Thr
            180                 185                 190

Gly Glu Ala Cys Arg Thr Gly Asp Arg
        195                 200
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<210> 6
<211> 629
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic nucleotide construct

<220>
<221> CDS
<222> (14)..(616)

<400> 6

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ggaattcacc acc atg ggg gtg cac gaa tgt cct gcc tgg ctg tgg ctt    49
               Met Gly Val His Glu Cys Pro Ala Trp Leu Trp Leu
                 1               5                  10

ctc ctg tcc ctg ctg tcg ctc cct ctg ggc ctc cca gtc ctg ggc gcc   97
Leu Leu Ser Leu Leu Ser Leu Pro Leu Gly Leu Pro Val Leu Gly Ala
         15                  20                  25

ccc ccc cga atc gag ggc cgc gcc cca cca cgc ctc atc tgt gac agc   145
Pro Pro Arg Ile Glu Gly Arg Ala Pro Pro Arg Leu Ile Cys Asp Ser
     30                  35                  40

cga gtc ctg gag agg tac ctc ttg gag gcc aag gag gcc gag aat atc   193
Arg Val Leu Glu Arg Tyr Leu Leu Glu Ala Lys Glu Ala Glu Asn Ile
 45                  50                  55                  60
```

```
acg acg ggc tgt gct gaa cac tgc agc ttg aat gag aat atc act gtc   241
Thr Thr Gly Cys Ala Glu His Cys Ser Leu Asn Glu Asn Ile Thr Val
                 65                  70                  75

cca gac acc aaa gtt aat ttc tat gcc tgg aag agg atg gag gtc ggg   289
Pro Asp Thr Lys Val Asn Phe Tyr Ala Trp Lys Arg Met Glu Val Gly
             80                  85                  90

cag cag gcc gta gaa gtc tgg cag ggc ctg gcc ctg ctg tcg gaa gct   337
Gln Gln Ala Val Glu Val Trp Gln Gly Leu Ala Leu Leu Ser Glu Ala
         95                 100                 105

gtc ctg cgg ggc cag gcc ctg ttg gtc aac tct tcc cag ccg tgg gag   385
Val Leu Arg Gly Gln Ala Leu Leu Val Asn Ser Ser Gln Pro Trp Glu
    110                 115                 120

ccc ctg cag ctg cat gtg gat aaa gcc gtc agt ggc ctt cgc agc ctc   433
Pro Leu Gln Leu His Val Asp Lys Ala Val Ser Gly Leu Arg Ser Leu
125                 130                 135                 140

acc act ctg ctt cgg gct ctg gga gcc cag aag gaa gcc atc tcc cct   481
Thr Thr Leu Leu Arg Ala Leu Gly Ala Gln Lys Glu Ala Ile Ser Pro
                145                 150                 155

cca gat gcg gcc tca gct gct cca ctc cga aca atc act gct gac act   529
Pro Asp Ala Ala Ser Ala Ala Pro Leu Arg Thr Ile Thr Ala Asp Thr
            160                 165                 170

ttc cgc aaa ctc ttc cga gtc tac tcc aat ttc ctc cgg gga aag ctg   577
Phe Arg Lys Leu Phe Arg Val Tyr Ser Asn Phe Leu Arg Gly Lys Leu
        175                 180                 185

aag ctg tac aca ggg gag gcc tgc agg aca ggg gac aga tgaccaggtc    626
Lys Leu Tyr Thr Gly Glu Ala Cys Arg Thr Gly Asp Arg
    190                 195                 200

gac                                                               629
```

<210> 7
<211> 614
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
nucleotide construct

<220>
<221> CDS
<222> (14)..(601)

<400> 7

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ggaattcacc acc atg ggg gtg cac gaa tgt cct gcc tgg ctg tgg ctt    49
               Met Gly Val His Glu Cys Pro Ala Trp Leu Trp Leu
                 1               5                  10
```

```
ctc ctg tcc ctg ctg tcg ctc cct ctg ggc ctc cca gtc ctg ggc gcc   97
Leu Leu Ser Leu Leu Ser Leu Pro Leu Gly Leu Pro Val Leu Gly Ala
         15                  20                  25

ccc ccc gcc cca cca cgc ctc atc tgt gac agc cga gtc ctg gag agg   145
Pro Pro Ala Pro Pro Arg Leu Ile Cys Asp Ser Arg Val Leu Glu Arg
     30                  35                  40

tac ctc ttg gag gcc aag gag gcc gag aat atc acg acg ggc tgt gct   193
Tyr Leu Leu Glu Ala Lys Glu Ala Glu Asn Ile Thr Thr Gly Cys Ala
 45                  50                  55                  60

gaa cac tgc agc ttg aat gag aat atc act gtc cca gac acc aaa gtt   241
Glu His Cys Ser Leu Asn Glu Asn Ile Thr Val Pro Asp Thr Lys Val
                 65                  70                  75

aat ttc tat gcc tgg aag agg atg gag gtc ggg cag cag gcc gta gaa   289
Asn Phe Tyr Ala Trp Lys Arg Met Glu Val Gly Gln Gln Ala Val Glu
             80                  85                  90

gtc tgg cag ggc ctg gcc ctg ctg tcg gaa gct gtc ctg cgg ggc cag   337
Val Trp Gln Gly Leu Ala Leu Leu Ser Glu Ala Val Leu Arg Gly Gln
         95                  100                 105

gcc ctg ttg gtc aac tct tcc cag ccg tgg gag ccc ctg cag ctg cat   385
Ala Leu Leu Val Asn Ser Ser Gln Pro Trp Glu Pro Leu Gln Leu His
    110                 115                 120

gtg gat aaa gcc gtc agt ggc ctt cgc agc ctc acc act ctg ctt cgg   433
Val Asp Lys Ala Val Ser Gly Leu Arg Ser Leu Thr Thr Leu Leu Arg
125                 130                 135                 140

gct ctg gga gcc cag aag gaa gcc atc tcc cct cca gat gcg gcc tca   481
Ala Leu Gly Ala Gln Lys Glu Ala Ile Ser Pro Pro Asp Ala Ala Ser
                145                 150                 155

gct gct cca ctc cga aca atc act gct gac act ttc cgc aaa ctc ttc   529
Ala Ala Pro Leu Arg Thr Ile Thr Ala Asp Thr Phe Arg Lys Leu Phe
            160                 165                 170

cga gtc tac tcc aat ttc ctc cgg gga aag ctg aag ctg tac aca ggg   577
Arg Val Tyr Ser Asn Phe Leu Arg Gly Lys Leu Lys Leu Tyr Thr Gly
        175                 180                 185

gag gcc tgc agg aca ggg gac aga tgaccaggtc gac                   614
Glu Ala Cys Arg Thr Gly Asp Arg
    190                 195
```

<210> 8
<211> 629
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic nucleotide construct

<220>
<221> CDS
<222> (14)..(616)

<400> 8

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ggaattcacc acc atg ggg gtg cac gaa tgt cct gcc tgg ctg tgg ctt    49
               Met Gly Val His Glu Cys Pro Ala Trp Leu Trp Leu
                 1               5                  10

ctc ctg tcc ctg ctg tcg ctc cct ctg ggc ctc cca gtc ctg ggc gcc   97
Leu Leu Ser Leu Leu Ser Leu Pro Leu Gly Leu Pro Val Leu Gly Ala
         15                  20                  25

ccc ccc ggc gcc gcc cac tac gcc cca cca cgc ctc atc tgt gac agc   145
Pro Pro Gly Ala Ala His Tyr Ala Pro Pro Arg Leu Ile Cys Asp Ser
     30                  35                  40

cga gtc ctg gag agg tac ctc ttg gag gcc aag gag gcc gag aat atc   193
Arg Val Leu Glu Arg Tyr Leu Leu Glu Ala Lys Glu Ala Glu Asn Ile
 45                  50                  55                  60

acg acg ggc tgt gct gaa cac tgc agc ttg aat gag aat atc act gtc   241
Thr Thr Gly Cys Ala Glu His Cys Ser Leu Asn Glu Asn Ile Thr Val
                 65                  70                  75

cca gac acc aaa gtt aat ttc tat gcc tgg aag agg atg gag gtc ggg   289
Pro Asp Thr Lys Val Asn Phe Tyr Ala Trp Lys Arg Met Glu Val Gly
             80                  85                  90

cag cag gcc gta gaa gtc tgg cag ggc ctg gcc ctg ctg tcg gaa gct   337
Gln Gln Ala Val Glu Val Trp Gln Gly Leu Ala Leu Leu Ser Glu Ala
         95                  100                 105

gtc ctg cgg ggc cag gcc ctg ttg gtc aac tct tcc cag ccg tgg gag   385
Val Leu Arg Gly Gln Ala Leu Leu Val Asn Ser Ser Gln Pro Trp Glu
    110                 115                 120

ccc ctg cag ctg cat gtg gat aaa gcc gtc agt ggc ctt cgc agc ctc   433
Pro Leu Gln Leu His Val Asp Lys Ala Val Ser Gly Leu Arg Ser Leu
125                 130                 135                 140

acc act ctg ctt cgg gct ctg gga gcc cag aag gaa gcc atc tcc cct   481
Thr Thr Leu Leu Arg Ala Leu Gly Ala Gln Lys Glu Ala Ile Ser Pro
                145                 150                 155

cca gat gcg gcc tca gct gct cca ctc cga aca atc act gct gac act   529
Pro Asp Ala Ala Ser Ala Ala Pro Leu Arg Thr Ile Thr Ala Asp Thr
            160                 165                 170

ttc cgc aaa ctc ttc cga gtc tac tcc aat ttc ctc cgg gga aag ctg   577
Phe Arg Lys Leu Phe Arg Val Tyr Ser Asn Phe Leu Arg Gly Lys Leu
        175                 180                 185

aag ctg tac aca ggg gag gcc tgc agg aca ggg gac aga tgaccaggtc    626
Lys Leu Tyr Thr Gly Glu Ala Cys Arg Thr Gly Asp Arg
    190                 195                 200

gac                                                               629
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<210> 9
<211> 4
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic peptide

<400> 9
Ile Glu Gly Arg
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<210> 10
<211> 5
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic peptide

<400> 10
Asp Asp Asp Asp Lys
1 5

<210> 11
<211> 7
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic peptide

<400> 11
Asp Asp Asp Asp Lys Ala Pro
1 5

<210> 12
<211> 18
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic primer

<400> 12
gagcctgaat tcaccacc 18

<210> 13
<211> 30
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic primer

<400> 13
aggtgggtcg acctggtcat ctgtcccctg 30

<210> 14
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic oligonucleotide

<400> 14
cgccccccccc cgaatcgagg gccg 24

<210> 15
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic oligonucleotide

<400> 15
cgcggccctc gattcggggg gggg 24

<210> 16
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic oligonucleotide

<400> 16
cgcccccccc ggcgccgccc acta 24

<210> 17
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
oligonucleotide

<400> 17
cgtagtgggc ggcgccgggg gggg 24